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TECHNICAL NOTE

U.S. DEPARTMENT OF THE INTERIOR – BUREAU OF LAND MANAGEMENT

PROPER LOCATIONS FOR STORAGE PRECIPITATION GAGES

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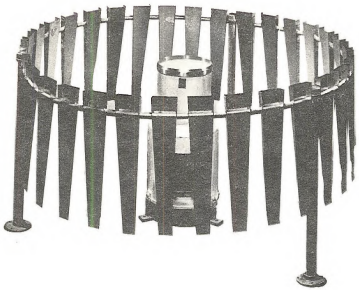

The proper location of precipitation gages will improve the reliability of rainfall records and management decisions.

Most BLM districts maintain a network of storage precipitation gages. Many of these have been in operation for 15 or more years. If the gages were not properly placed when installed, records can be in error as much as 25 per cent.

To improve the reliability of precipitation information, gage locations should be reviewed for adequate placement. If found to be in poor locations, gages should be moved to better sites. However, when a gage is relocated, its past record should be retained for possible future adjustment based on data at the new location.

The following guidelines can be used to improve the accuracy of precipitation records:

1. Avoid bare ridges and benches. (Figure 1)

2. Where possible, use Pinyon Juniper, large shrubs, or similar vegetation as a wind shield. This can be done by using the following rules:
   Starting at the top of the container, measure up and out at a 45° angle. All vegetation should fall outside the imaginary cone. (Figure 2)
   A better rule, when possible, is to be sure that the distance from the shielding vegetation to the gage is equal to at least twice the height of the vegetation. (Figure 2a)

3. When a gage must be placed in an area of tall trees (> 50 feet), a clearing should be used that has a minimum diameter of 50 feet. (Figure 3)

4. Small canyons and draws are better than no protection at all, but should be avoided if possible. (Figure 4)

5. If none of the above is available, a commercial wind shield should be considered for the gage. (Figure 5)

If the above suggestions are followed, precipitation information will be accurate and of greater value in BLM management decisions.

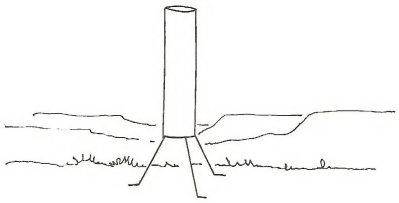

Figure 1. Avoid unprotected areas.

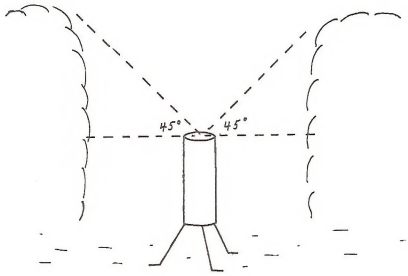

Figure 2. The cone above the gage should not be obstructed.

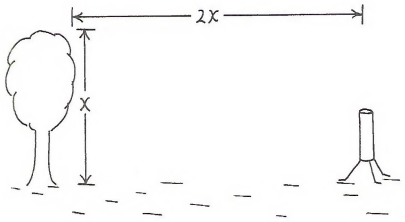

Figure 2a. When possible, the distance between gage and shielding vegetation should be twice the height of the vegetation.

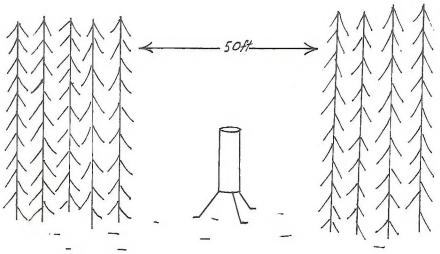

Figure 3. The opening in the trees should be at least 50 feet wide.

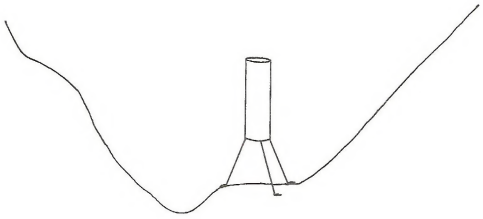

Figure 4. Even a little protection helps.

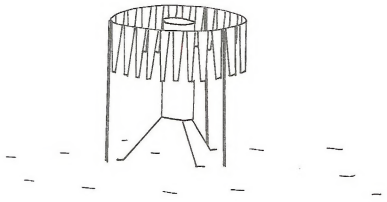

Figure 5. A commercially built wind shield can take the place of natural protection.

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